Illinois Department of
Natural Resources
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Pat Quinn, Governor
Marc Miller, Director

July 13, 2011

Mr. Kevin Lindeman
North Central Illinois Council of Governments
613 West Marquette St.
Ottawa, IL 61350

RE: Illinois Valley Community College Wind Turbine, LaSalle County
Endangered Species Consultation Program
EcoCAT Review #1113255

Dear Mr. Lindeman:

The Department received this proposed action in LaSalle County to initiate consultation in accordance with the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code* Part 1075.

This letter states the biological opinions of the Department of Natural Resources pertaining to Natural Areas and those endangered or threatened species protected by the statutes, identified above, which require Counties, Local Governments, and state agencies to consult with the Department.

Indiana Bat, *Myotis sodalis*. The campus of Illinois Valley Community College is located less than four miles from the Blackball Mine, across the Illinois River at Pecumsaugan Creek Nature Preserve. The Blackball Mine provides a winter hibernation site for the Indiana Bat, and it is the only "critical habitat" designated by the Fish & Wildlife Service for this species in Illinois.

As demonstrated by fatalities of Indiana Bats at an Indiana wind farm in 2009 and 2010, this species is vulnerable to collision with utility-scale wind turbines, especially during migration.

Many Indiana Bats migrate significant distances, up to 300 miles, to their summer habitats. But many travel lesser distances, and some spend the summers in the vicinity of their winter roosts. Male Indiana Bats have been captured within a mile of the Mine during June, indicating that some fraction of the bats which winter there remain in the vicinity.

In April 2010, the Department conducted a telemetry study to follow the migratory flights of gravid female Indiana Bats as they emerged from hibernation in the Blackball Mine. Although several bats flew no farther than the Little Vermilion River just north of LaSalle, the majority of bats entered the forests along the Illinois River and, after foraging for a few hours or days,

moved downstream along the River in the direction of Peoria. This is a course bringing them very close to the IVCC campus. The return migration may not necessarily retrace the outward movement.

Despite the conventional wisdom that bats are found in and near forested habitat, this does not hold true during migration, so that wind energy projects located in very open landscapes retain the potential to kill bats. This is the case at the only wind facility so far documented to kill Indiana Bats. Consequently, siting a wind energy facility in open agricultural areas does not necessarily reduce or eliminate the potential for bat mortality, although it may reduce the potential for casualties among bats in local reproductive or bachelor colonies.

Consequently, it is the biological opinion of the Department that construction of a 1.5-MW wind turbine at the IVCC campus, as proposed, entails a high risk of mortality to migrating Indiana Bats departing or approaching the Blackball Mine.

Recommendation #1. The Department recommends IVCC seek an Incidental Take Authorization from the Department of Natural Resources for the Indiana Bat by filing a Conservation Plan detailing the measures the College will adopt to avoid, minimize, or mitigate for any Indiana Bats taken by its turbine. [Because this is also a federally-listed species, a federal Habitat Conservation Plan is recommended, as well.]

It has become standard practice in the Illinois wind energy industry for developers to perform pre-construction bat monitoring with acoustic detectors, both to assess over-all bat activity and to identify the presence of particular species. (Full-spectrum detectors enhance the probability of correctly identifying high-frequency-emitting bat species.) This method is most effective if at least some of the detectors are placed as near to the projected turbine nacelle elevation as possible. However, the failure to identify the calls of the Indiana Bat through this method cannot establish their absence from the vicinity. The Department is aware of at least one recent case in Illinois where numerous Indiana Bats were captured at a site where the deployment of multiple detectors failed to indicate their presence.

Acoustic monitoring and mist-netting are useful in identifying the entire local bat community which may be affected by a turbine. Bats still considered common in Illinois have proven highly-susceptible to White-Nose Syndrome, a "new" disease currently devastating bat populations in more eastern states. The Fish & Wildlife Service is now evaluating petitions to list the **Little Brown Bat** (*Myotis lucifugus*) and the **Northern Long-eared Bat** (*Myotis septentrionalis*); both species occur in LaSalle County. The **Big Brown Bat** (*Eptesicus fuscus*) and the **Tricolor Bat** (*Perimyotis subflavus*) are also susceptible and present in LaSalle County. All four have already been listed as endangered by the State of Wisconsin. Those planning wind turbines should anticipate that one or more of these additional bat species will become listed in Illinois within the useful lifespan of the wind turbine.

Recommendation #2. The Department recommends IVCC should conduct at least one full activity season (March-November) of pre-construction acoustic bat activity monitoring to assess or quantify the levels of bat activity within the project area, attempting to determine how often Indiana Bats and other species are active in the vicinity of the proposed wind turbine.

Cerulean Warbler, *Dendroica cerulea*. The endangered Cerulean Warbler breeds in forests at Matthiessen State Park, about four miles southeast of the project footprint. Cerulean Warblers are known to nest in many of the woodlands of the Illinois River's tributaries, but an assumption that migrants follow the River during migration is unwarranted.

The Cerulean Warbler requires large blocks of contiguous interior forest habitat for nesting and reproduction. A number of such habitats exist in the near vicinity along the Illinois and Vermilion Rivers and their tributaries. Consequently, the project is nearly surrounded by blocks of habitat suitable for supporting breeding Cerulean Warblers. Most of these habitats have not been surveyed for breeding birds.

Small passerine migratory birds, like the Cerulean Warbler, are those most often killed by wind turbine collisions, which usually occur during migration, at night, and in foul weather. Resident breeding birds are much less likely to approach a wind turbine during daily activities. Foul weather can force migrating birds to lower altitudes than would otherwise be used, while low clouds and nearly complete cloud cover reduce the visibility of obstacles in their flight path.

Few measures exist to reduce avian casualties occurring during night migrations. Studies have shown that birds at risk of collision lack the ability to perceive a turbine blade in motion, so that ultra-violet paints or color variations applied to blades are not effective in reducing mortality. Exhortations to avoid siting turbines in migratory pathways are unhelpful, since most such flyways exist only in the broadest and most general sense. Even "parking" turbine blades during periods of likely passage may not be effective, since some studies suggest birds in passing flocks take no evasive actions to avoid turbines, whether stationary or in motion.

It is the biological opinion of the Department that the proposed action is unlikely to adversely modify the essential habitat of the Cerulean Warbler, yet at least a moderate risk remains that one or more members of this species may be taken through collision with the turbine during its projected lifespan.

Recommendation #3. The Department recommends pre-construction surveys of nearby large forest tracts to assess Cerulean Warbler population levels in the vicinity; this should provide a basis for a more refined evaluation of collision risks to this species, following which IVCC may consider whether to seek an Incidental Take Authorization for this species. Post-construction bird/bat mortality studies should be planned.

Bald Eagle, *Haliaeetus leucocephalus*. The Illinois River valley near LaSalle has become famous for the density of its wintering Bald Eagle population, while a number of pairs actually breed in the forests along the River. Although the Bald Eagle is no longer listed as endangered or threatened under federal or state statutes, it remains fully-protected under the federal *Bald and Golden Eagle Protection Act*. Although not as vulnerable to wind turbine collisions as the Golden Eagle, the Bald Eagle has demonstrated some vulnerability, especially among juveniles. A federal Bald Eagle conservation plan and permit from the Fish & Wildlife Service may be both prudent and necessary.

Recommendation #4. The Department recommends IVCC consult with the Fish & Wildlife Service Rock Island Field Office concerning potential impacts to the Bald Eagle.

Pecumsaugan Creek/Blackball Mines Nature Preserve. As noted earlier, this Nature Preserve contains federally-designated "critical habitat" for the Indiana Bat. It is the opinion of the Department the proposed action will have no direct impact on the physical features of this Nature Preserve, nor will the proposed turbine be visible from within the Preserve, due to distance, topography, and vegetation.

Starved Rock Nature Preserve and State Park. Although less than two miles from the western edge of the State Park and Nature Preserve, the turbine is unlikely to be visible from the Park or Nature Preserve due to topography and the intervening vegetation. It is the Department's opinion the proposed turbine is unlikely to adversely modify the Nature Preserve or Park in any way. However, it should be noted the Park provides essential habitat for the Cerulean Warbler and the Bald Eagle, and is a staging area for spring and fall migratory birds, some of whom may be at risk of colliding with the wind turbine. The Park may also support transitory or resident populations of the Indiana Bat.

Matthiessen State Park. Although portions of the Park lie less than four miles from the site of the proposed wind turbine, the turbine is unlikely to be visible to Park visitors due to topography and vegetation. It is the Department's opinion the proposed action is unlikely to adversely affect Matthiessen State Park.

I & M Canal. Although only a bit over a mile and a half south of the western terminus of the Illinois & Michigan Canal, it is the Department's opinion the proposed wind turbine is unlikely to be visible to passengers on canal boats or to users of the I& M Canal Trail.

Illinois Valley College Geological Area INAI Site. The proposed site for the wind turbine is just over 1,000 feet from the Geological Area, noted for the occurrence of igneous pebbles in outcrops of Pennsylvanian Limestone. However, it is the Department's opinion the proposed action will not modify the INAI Site in any way.

LaSalle South Geological Area INAI Site. The LaSalle Limestone is exposed in a road cut about half a mile east of the campus. It is the Department's opinion that this area, too, is unlikely to be modified in the course of implementing the proposed action.

Vermilion River – Illinois Drainage INAI Site. The proposed action is located two miles from the confluence of the Vermilion River with the Illinois River. The proposed action is not located within the Vermilion River's watershed and so will not physically alter any aspect of the Vermilion River. Due to topography and vegetation, the proposed wind turbine is unlikely to be visible to any recreational users of the Vermilion River. It is the Department's opinion the proposed action will not modify the Vermilion River INAI Site.

Wetlands. It is the Department's opinion the proposed action will have no direct or indirect impacts to wetlands.

Consultation on the part of the Department is terminated, unless the North Central Illinois Council of Governments desires additional information or advice related to this proposal. In accordance with 17 Ill. Adm. Code 1075.40(h), the Council must notify the Department of its decision regarding these recommendations, whether it will:

- Proceed with the action as originally proposed;
- Require the action to be modified per Department recommendations (please specify which measures if not all will be required); or
- Forgo the action.

This consultation is valid for two years unless new information becomes available which was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, the applicant must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action. Please contact me if you have questions regarding this review.

Sincerely,

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cc: Jenny Skufca, Illinois Nature Preserves Commission
Michael Harsted, LaSalle County Dept. of Environmental Services
President Dr. Jerry Corcoran, Illinois Valley Community College.